

- 28) The hide is hung over a smooth pole, 5 cm. diameter, which rests slanting against a tree. The hide is caught between pole and tree. The hair and pigmented layer are removed with the beaming tool grasped in both hands and drawn down the pole toward the body. The hair is frequently left on the legs, though it is just as convenient to dehair them or cut them off at once. Loose tissue is also removed from the flesh side. The [412] beaming tool is a deer cannon-bone or hip-bone broken lengthwise and sharpened. Now a horse rib, naturally sharp on its concave edge, is

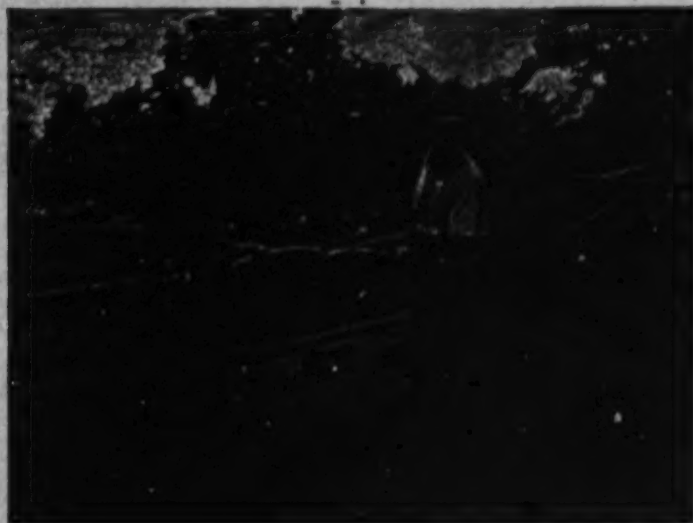


Fig. 47. Wringing a Deer Hide.

substituted. Dehairing takes about two hours. The hide is hung on a pole to dry in the sun for a day or so.

When ready for tanning, the stiff skin is soaked in the creek over night, but no longer. It is then rubbed thoroughly pliable in the hands, wetting it with warm water. Folded lengthwise flesh side out, the neck is looped about a post, the legs around a stick, and both are folded back inside the skin. Twisting the stick wrings the skin dry. (Fig. 17.) It is now stretched by pulling at the edges and rubbing it together everywhere [412] until entirely freed of wrinkles. A skewer threaded in little slits which

Young

231 eagles and hawks are captured in the nest and raised in captivity until
 237 the plumes may be plucked. A shade is erected over a replica of the nest
 417 in which the helpless bird is placed; when he grows he is tethered. Preferably a cage is built which resembles the frame of a sweatlodge but is somewhat higher. Brush is placed on top for shade. Cross sticks inside support a nest, on a level with which is a doorway for feeding.

237 Feathers are split beginning at the tip, and the narrower vane discarded. The shaft of the wider vane is scraped thin and trimmed. The
 411 whole length of the plume is used; these are about 13 cm. long for reed arrows, 23 cm. for willow. The shaft is decorated as shown (Fig. 25)
 531 before the vanes are placed; the bands are 1 cm. wide on reed arrows, 2 cm. on willow. Sometimes the whole distance covered by the vanes (or most of it) is colored red alone, and occasionally the entire shaft is painted red. This painting is purely decorative: these are not property



* Fig. 25 (80.9-1222). Method of Feathering and Painting an Arrowshaft. The colors used are indicated as follows: heavy black, black; heavy stippling, green; light stippling, red.

411 marks, for a man could always recognise his own arrows. Glue is applied at the points where the vanes are to be bound on, and also over the paint, where it serves as a varnish. Sinew is chewed and drawn between the teeth until it is soft, when it is wrapped several times around the nock end by twirling the shaft. A few barbs at the tip of the first vane are caught under the wrapping, then a few of the second vane under the next turn, finally the third, and the wrapping is then completed. The vanes are carefully straightened and the quills of all three simply wrapped with sinew. The sinews are not tied, the glue holding them fast. The edge of the vane is next trimmed back toward the shaft so that it is broader at the tip than the butt, except that the last few barbs at the butt and the down are left long. The ends of the barbs at the tip are cut off square to the shaft. Flight is retarded if the vanes are left broad. Three vanes are always used. Many arrows have one of the vanes in the plane of the nock, but this is not essential. Arrows twirl in flight, but the vanes are never placed spirally. Arrows are left in the sun to dry for

*This is not properly shown in the illustration.

sleepers is free from troublesome dreams, will sleep soundly, and arise refreshed. The head of the house or a guest would sleep anywhere he chose. A man's personal belongings were hung over his bed. Food, baskets, etc., were placed nearer the entrance; the food furthest from it to guard against animals. If the house was high enough, a pole on which to hang blankets and skins, was fastened across above man height, but ordinarily this was placed at one side. Cooking is usually done outside. [513 352 252]

Every camp has one or more shades which shelter the common domestic activities, and in some instances serve in lieu of a summer house. The shades are built in a great variety of forms: some, in fact, are quite amorphous. The commonest is the rectangular flat-roofed type described above: others are simply a slanting roof, like half a gable, a quarter sphere, like half a dome-shaped house, a barrel vault, and so on. Most are carelessly covered with brush, with dirt banked against them. Ladders (two poles with rungs tied on) are often provided to reach the roof of a house or shade in order to replace the dirt covering, store corn, etc. These are sometimes logs notched on one face. A cooking shelter may be made of boughs set up in a semicircle before the outdoor fireplace, forming a breast-high screen. [417 343 354]

There are a series of small caves and rock-shelters (*oyd'd*) along the cliffs at the top of the talus slope which were used during inclement weather, particularly in the spring, during floods, and the uncertain period when raids were frequent, for they were conveniently located for escape up the cliffs when the alarm was given. A breast-high wall of rocks, laid dry, was built across the opening. Poles were set vertically in the space above the wall, others were tied horizontally across these, and the frame was thatched. A blanket partly covered the entrance, the open space above it providing a smoke vent. [731 722 342]

A little ring of brush is raised for a temporary camp. This serves at least to keep out animals and the blowing sand. The White Mountain Apache have a similar usage. [417 711]

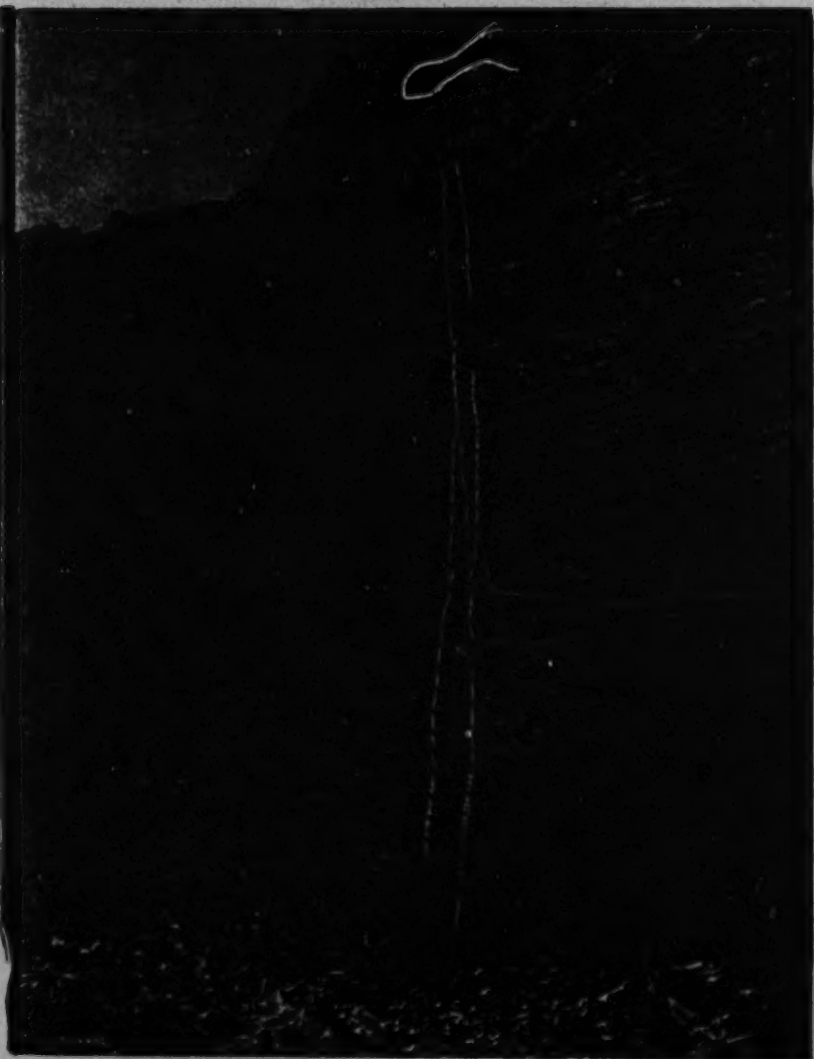
Innumerable storage houses line the ledges at the foot of the cliff all along the canyon, standing high above the reach of floods. A stone wall is built about the mouth of a natural enlargement in a crevice to form a little house of a capacity of 3 to 5.5 cu. m. (Fig. 30). The wall is carefully chinked and plastered with a hard mortar to render it rodent proof. This is made of guano, found in the crevices of the cliff, mixed with dirt. A flat stone is set in the little entrance and sealed with mortar [333 343]

2:11 PM Y-5 (ca. 1901) 1944

MT14 Flathead Tunnels MT14
Havasupai

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Crude ladder by which the Indians descended to the pool below Mooney Falls,
which is out of the picture to the left

[p. 116 M]